2006

LATE SUMMER AND FALL OPERATIONS REPORT OF THE HUP MANAGING ENTITIES AND WATER MANAGERS

U.S. BUREAU OF RECLAMATION
GRAND VALLEY WATER USERS ASSOCIATION
ORCHARD MESA IRRIGATION DISTRICT
GRAND VALLEY IRRIGATION COMPANY
COLORADO DIVISION OF WATER RESOURCES, DIVISION 5
COLORADO WATER CONSERVATION BOARD
U.S. FISH AND WILDLIFE SERVICE
COLORADO RIVER WATER CONSERVATION DISTRICT
DENVER WATER
NORTHERN COLORADO WATER CONSERVANCY DISTRICT

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Draft 1/22/2007 2006 Late Summer and Fall Operations Report of the HUP Managing Entities and Water Managers

Introduction

This report provides information about the coordination efforts in 2006 to manage late summer and fall releases of water from the Historic Users Pool (HUP)¹ of Green Mountain Reservoir and from Ruedi, Williams Fork, and Wolford Mountain Reservoirs. Coordination of these releases with irrigation diversions in the Grand Valley provides for management of the HUP for its beneficiaries and assists in maintaining target flows in the 15-Mile Reach of the Colorado River for the Colorado River Program.

Attachment A provides background information and a chronology of events which led to this coordination effort including information on the Orchard Mesa Check Case settlement and the Recovery Program for the endangered fish. The 2006 operations, hydrologic conditions, flow recommendations, reservoir releases, irrigation diversions, and resulting flows in the 15-Mile Reach are summarized below.

Participants in the 2006 coordination efforts included the HUP Managing Entities:

U.S. Bureau of Reclamation (Reclamation)
Grand Valley Water Users Association (GVWUA)
Orchard Mesa Irrigation District (OMID)
Grand Valley Irrigation Company (GVIC)
Colorado Division of Water Resources, Division 5
Colorado Water Conservation Board (CWCB)
U.S. Fish and Wildlife Service (Service)

In addition, the following organizations made releases from the reservoirs or participated in the coordination process to benefit the flows in the 15-Mile Reach:

Colorado River Water Conservation District Denver Water Northern Colorado Water Conservancy District City of Grand Junction National Weather Service U.S. Geological Survey

^{1.} HUP is the term commonly applied to the releases from the Green Mountain Reservoir Power Pool pursuant to paragraph 2 of the 1984 Green Mountain Reservoir Operating Policy.

Ruedi Water and Power Authority Palisade Irrigation District (PID) Xcel Energy Colorado Springs Utilities

2006 Operations Summary

Water Year 2006 began optimistically, with the October through December precipitation in the Upper Colorado River basin being approximately 150-percent of average. As a result of the well-above average fall precipitation, the January 1 basinwide snowpack was at 133-percent of average. The winter precipitation in the basin was not as abundant as it had been during the fall, with precipitation for January, February, and March, being recorded at 108-percent, 71-percent, and 98-percent of average, respectively. Even with the reduced precipitation, the April 1 snowpack was still 110-percent of average, the highest April 1 snowpack in the basin recorded since 1997. With the above average snowpack, the April 1 runoff projections were well-above average for the basin.

The weather conditions turned warm, windy and dry in April, with precipitation being just 69-percent of average. These conditions caused an early and steady melt of the basin's snowpack, leaving it at just 78-percent of average by May 1. Even with the declining snowpack, the May 1 streamflow forecasts for the basin continued to be near normal to slightly above normal. The warm and dry conditions continued throughout the basin during May, with precipitation being just 52-percent of average during the month. The basin's snowpack dropped to just 38-percent of average by June 1 and streamflow projections for the remainder of the runoff season dropped to well-below average.

The 2005-2006 carryover storage in the basin's reservoirs was slightly above average and much better than that for 2004-2005. With the relatively good carryover storage conditions and the near-normal May 1 streamflow projections, the reservoir operators projected that most of the basin's reservoirs would have little problem filling. As a result, it was decided that the Coordinated Reservoir Operations² program would be conducted this year. Under this program, 28,485 acre-feet of inflow to Dillon, Williams Fork, Green Mountain, Wolford Mountain and Ruedi Reservoirs was bypassed between May 19 and May 30 in order to enhance the spring peak flow in the 15-Mile Reach for the benefit of the endangered fish.

As projected, all of the reservoirs that provide late summer/early fall flow augmentation releases to the 15-Mile Reach were able to fill. As a result, all of the amounts available to support target flows for the endangered fish were available this year. The total available included 20,825 acrefeet from Ruedi Reservoir (the full amount under agreements and contract), 11,412 acre-feet from Wolford Mountain Reservoir (6,000 acre-feet of the 6,000 acre-feet fish pool and 5,412 acre-feet of the 5,412 West Slope mitigation water under the Programmatic Biological Opinion

^{2.} The Coordinated Reservoir Operations program is an element of the Recovery Program where in average to wet years participating reservoirs pass excess inflow during a 7-10 day period during runoff to enhance spring peak flows in the 15-Mile Reach for the benefit of the endangered fish.

for the Recovery Program), 5,412 acre-feet from Williams Fork Reservoir (the full amount of the 5,412 acre-feet East Slope PBO water). In addition, 25,358 acre-feet was made available from the HUP as surplus deliverable to the Grand Valley power plant, indirectly benefiting the 15-Mile Reach or directly to the 15-Mile Reach through the Municipal/Recreational contract.

The HUP Managing Entities held their initial meeting on June 13, 2006 to consider conditions and plan for the upcoming season's operations. Due to the early spring runoff and high carryover storage, reservoir storage conditions were very good. With the dry conditions experienced since the beginning of May, irrigation demands had been relatively high, but were expected to be at about their normal levels for the remainder of the summer. It was generally felt that this year was shaping up to be a normal hydrologic year. Therefore, with the good storage conditions and projections of normal demands, the Service declared that the target flow for the 15-Mile Reach would initially be set to the "average year" target of 1,240 cfs with the expectation that it would be modified as conditions warranted.

At this initial meeting, Reclamation informed the group that work to re-install the second of the two ring seal gates at Green Mountain Reservoir was proceeding and that the ring seal gate project should be completed this year. As with previous years of the project, the outlet works tower would be plugged, making the outlet works unavailable. This would require the reservoir's releases to be made entirely through the spillway's radial gates. However, since the reservoir was projected to physically fill, there should be approximately 40,000 acre-feet of water available in storage above the spillway lip which could be released through the radial gates to meet the reservoir's release requirements. Reclamation informed the group that they were working on an agreement with Denver Water and the Colorado River Water Conservation District to make a loan of water available if necessary to complete the project.

A total of 20 meetings and/or conference calls were held between June 13 and October 18 to manage releases from Green Mountain, Ruedi, Williams Fork, and Wolford Mountain Reservoirs, coordinate irrigation diversions in the Grand Valley, and attempt to maintain the mean monthly target flows in the 15-Mile Reach. The notes from those meetings are included as Attachment C.

During the 2006 irrigation season, releases that directly or indirectly benefit flows in the 15-Mile Reach were made from the following reservoirs:

- 1) Green Mountain Reservoir
- 2) Ruedi Reservoir
- 3) Wolford Mountain Reservoir
- 4) Williams Fork Reservoir

Flow Recommendations

At the June 13 meeting, the Service set the mean monthly target flow for the 15-Mile Reach at 1,240 cfs, the "average year" target. With monsoonal flows bringing a wide-spread storm into

the basin in the latter part of August, the target was increased to 1,400 cfs on August 24. However, within a couple days, drier conditions set in and the natural flow dropped significantly. As a result, the Service dropped the target flow back to 1,240 cfs on August 30. The basin's dry conditions persisted and the Service dropped the target to 1,040 cfs on September 6. By September 13, wetter conditions returned to the basin and the Service increased the target back to 1,240 cfs, where it remained for the rest of the year.

River Calls

Due to maintenance issues at the Shoshone Power Plant, the plant was limited to one turbine from January 4, 2006 through May 1, 2006. As a result, free river conditions prevailed on the mainstem of the Colorado River during this period. Shoshone Power Plant's second turbine was returned to service on May 2. Fortunately, the Colorado River flow at Dotsero remained high enough to maintain the free river conditions on the mainstem through July 23. The junior Shoshone Power Plant call came on the river on July 24, and remained on through August 9. On August 10, the senior Shoshone call came on and remained on through the end of the irrigation season. Between July 24 and October 31, the Shoshone Power Plant call was the controlling right on the mainstem of the Colorado River. Of the 100 days during this period, 17 days were controlled by the junior 158 cfs call and 83 days were controlled by the senior 1250 cfs call. With the Shoshone Power Plant call being on most of the summer and near average flows from the sub-basins below Dotsero, the Cameo call never came on the river during the 2006 irrigation season. The status of the Shoshone Power Plant call and the Grand Valley call for irrigation year 2006 is provided in Table 1.

Reservoir Releases

A total of 61,094 acre-feet of water was released from the four contributing reservoirs directly or indirectly benefiting flows in the 15-Mile Reach between July 24 and October 10. Allowing for transit losses and travel time between the reservoirs and the 15-Mile Reach, these releases resulted in delivery of 55,477 acre-feet to the 15-Mile Reach between July 26 and October 12. Table 2 shows the daily releases from each reservoir to benefit the flows in the 15-Mile Reach. Table 3 provides summary operation statistics for each reservoir, including total storage capacity and volumes released to benefit flows in the 15-Mile Reach.

Green Mountain Reservoir: Start of fill for 2006 was declared as April 21, with the reservoir holding 64,192 acre-feet in storage, just slightly lower than its historic 65,000 acre-foot start of fill target. Pursuant to the State Engineers Office's interim policy, "Administration of Green Mountain Reservoir for 2006" of May 15, 2006 (Attachment B), Green Mountain Reservoir achieved a "paper fill" on May 28, 2006. On that date, Denver Water and Colorado Springs Utilities (Cities) owed Green Mountain Reservoir 44,392 acre-feet of water for their out-of-priority diversions. A provision of the interim policy allowed Green Mountain Reservoir to continuing storing its inflow under a 1955 water right after "paper filling" to reduce the amount

of water owed by the Cities. Under this provision, Green Mountain Reservoir was able to store sufficient water by June 15 to entirely eliminate the amount owed by the Cities.

By taking advantage of its senior refill right, Green Mountain Reservoir was able to continue storing some of its inflow after June 15, attaining a maximum physical content for the year of 152,899 acre-feet on June 29, and again on July 9. With the reservoir achieving a "paper fill" this year, the 52,000 acre-foot Colorado-Big Thompson Project replacement pool, the 5,000 acre-foot Silt Project reservation, the 66,000 acre-foot HUP allocation, and the 20,000 acre-foot set aside for contracts were all fully available this year.

The maximum drawdown rate limitations initially put in place in 2003 due to landslide concerns were continued in 2006. These drawdown rate limitations were to be initiated when the reservoir's water surface elevation dropped below 7880.0 feet. With the reservoir achieving both a "paper fill" and a physical fill in 2006, the water surface elevation remained above 7926.0 feet during the irrigation season, and therefore, the drawdown rate limitations were never triggered.

Pursuant to the interim policy, the HUP releases were charged to those HUP beneficiaries above Green Mountain Reservoir during the time the reservoir was "paper filling" and then during the operation of the 1955 water right. This resulted in a total debit to the HUP account of 148 acre-feet between April 21 and June 14. Releases to augment the water rights of HUP beneficiaries downstream of Green Mountain began on July 24, with a total of 4,225 acre-feet being released for that purpose between July 24 and October 31. Therefore, the total volume of water debited from the HUP account for HUP beneficiaries this year was 4,373 acre-feet. With the Shoshone Power Plant call being on most of the summer and near normal flows from the subbasins below Dotsero, the Cameo call never came on, thereby eliminating the need for HUP releases to support a Cameo call. As a result, the remaining HUP allocation was well-above the upper band of the drawdown curves and the Managing Entities declared that HUP surplus was available on August 16.

HUP surplus releases began on August 18 at an initial rate of 30 cfs. HUP surplus releases were increased to about 300 cfs by August 24 and remained at that level through the end of the month. Between September 1 and September 19, HUP surplus releases were varied between about 400 cfs and 600 cfs, depending upon the native flow of the basin and the decisions of the Managing Entities in their attempts to support the endangered fish flow targets in the 15-Mile Reach. The HUP surplus releases were reduced between September 20 and September 23 and terminated for the remainder of the year on September 24, as wetter conditions in the basin prevailed allowing the target flows to be met solely from Ruedi Reservoir augmentation releases. HUP surplus releases totaled 25,358 acre-feet in 2006, with 4,329 acre-feet being released under the agreement for the Grand Valley Power Plant and 21,029 acre-feet being attributable to the Municipal/Recreation Contract. Together, the releases for HUP beneficiaries above and below Green Mountain Reservoir and the HUP surplus releases totaled 29,731 acre-feet in 2006. This resulted in an HUP balance of 36,269 acre-feet on October 31. The daily distribution of releases from the HUP is provided in Table 4 and the HUP's content relative to the dry-year upper and lower bands is shown in Figure 1.

Ruedi Reservoir: The reservoir fell just 1,500 acre-feet short of achieving a physical fill this year, with a maximum content for the year of 100,824 acre-feet occurring on July 23. This storage was deemed adequate to make the 4-out-of-5-year 5,000 acre-foot commitment available to support the endangered fish flow targets this year. Therefore, the water available from Ruedi to support the target flows in the 15-Mile Reach totaled 20,825 acre-feet; 5,000 acre-feet from the firm fish commitment, 5,000 acre-feet from the 4-out-of-5-year fish commitment, and the 10,825 acre-feet of water by agreement with the Service.

The flow augmentation release from Ruedi Reservoir for the endangered fish began on July 24 and was ramped up to 180 cfs by July 29, where it remained through August 1. The first week of August brought a storm to the basin and the augmentation release was decreased to about 140 cfs. By August 8, drier conditions prevailed and the augmentation release was increased to approximately 180 cfs. The 180 cfs augmentation release was maintained until August 18, when it was reduced to 130 cfs. Between August 18 and October 6, the augmentation release was gradually reduced from 130 cfs to about 100 cfs, finally terminating for the year on October 10, as wetter conditions prevailed in the basin.

Of the total 20,825 acre-feet available to support the endangered fish target flows, 19,680 acre-feet was released for the year. The 5,000 acre-feet of firm fish water was exhausted by August 10, and the 10,825 acre-feet of agreement water was exhausted by September 10. By the time augmentation releases from Ruedi Reservoir ceased on October 10, all but 605 acre-feet of the 5,000 acre-feet available in the 4-out-of-5-year fish commitment had been released.

Wolford Mountain Reservoir: For the first time since water year 2000, Wolford Mountain Reservoir achieved a physical fill. In fact, the reservoir achieved its physical fill on May 1 and continued to spill through June 28. The reservoir attained a maximum content for the year of 67,780 acre-feet on May 21. With the reservoir achieving a physical fill, the 6,000 acre-feet of space provided for the endangered fish per the Wolford Mountain Reservoir Biological Opinion filled, making all 6,000 acre-feet available this year. In addition, the 5,412 acre-feet of West Slope mitigation water under the PBO was also available. Therefore, a total of 11,412 acre-feet was made available this year from Wolford Mountain Reservoir to support target flows for the endangered fish.

Releases of water to support the target flows in the 15-Mile Reach from Wolford Mountain Reservoir began on July 24 at the rate of 100 cfs. The releases continued at this rate through August 2, when they were terminated for the first week of August due to a wide-spread storm in the basin. Augmentation releases resumed on August 8 at the rate of 100 cfs and continued at that rate until September 22, when they were terminated for the remainder of the year due to wet conditions in the basin. The 5,412 acre-feet of West Slope mitigation water was exhausted by August 26. Of the 6,000 acre-feet available from the fish pool, a total of 5,232 acre-feet was used during 2006, allowing 768 acre-feet to be carried over to water year 2007. Altogether, 10,644 acre-feet of the 11,412 acre-feet available for release to benefit the endangered fish was released during 2006.

Williams Fork Reservoir: The reservoir achieved a physical fill on June 5 and reached a maximum content of 96,836 acre-feet on July 9. As a result, the 5,412 acre-feet of East Slope mitigation water under the PBO was fully available from Williams Fork Reservoir this year. The releases from Williams Fork to benefit flows in the 15-Mile Reach began on August 9 at a rate of about 100 cfs. The augmentation release remained at 100 cfs until August 16, when it was increased to approximately 150 cfs. The 150 cfs release was maintained until August 29 and then terminated once the entire 5,412 acre-feet of East Slope mitigation water had been exhausted. Therefore, all 5,412 acre-feet of East Slope mitigation water available from Williams Fork was released to benefit flows in the 15-Mile Reach during water year 2006.

Irrigation Diversions

Five irrigation districts serving approximately 70,000 acres of land in the Grand Valley divert irrigation water from the Colorado River. During periods of peak irrigation demand, up to 2,260 cfs is diverted via two diversion dams located upstream of the 15-Mile Reach. A portion of the water diverted (up to 582 cfs) is used for hydroelectric power generation and hydraulic pumps to lift irrigation water to the Orchard Mesa. This portion of the water returns to the river at the top of the 15-Mile Reach, unless operation of the Orchard Mesa Check structure is required, in which case the water 'checked' back is divertible by GVIC. The Check is normally operated only during dry years, when river flows are so low that GVIC's senior water rights would result in the upstream diversions for GVWUA and OMID being curtailed. Using the Check, GVWUA and OMID can "borrow" water destined for GVIC, use it for hydropower and/or hydraulic pumping, and return it to the river upstream of GVIC's diversion dam (see Figure 2).

The diversions by GVIC and through the Government Highline Canal for March 19 through November 12, 2006 are depicted in Figure 3. Diversions by the GVIC system began on April 6 at a rate of about 365 cfs. By the end of April, the GVIC diversions had increased to about 620 cfs. During the month of May, the diversions by GVIC generally varied between 620 cfs and 630 cfs. GVIC diversions were increased to between 630 cfs and 640 cfs for most of the month of June. Between the end of June and the third week of September, the GVIC diversion rate was maintained between 640 cfs and 653 cfs, the maximum for the year. Between September 22 and November 4, the GVIC diversions were gradually reduced from 640 cfs to 540 cfs as wetter conditions prevailed throughout the region, reducing demand. Beginning November 4, the irrigation diversions were ramped down and finally terminated on November 7.

The irrigation diversions through the Government Highline Canal began on March 21 and were ramped up to about 1,500 cfs by April 19. The diversions were then gradually increased from about 1,500 cfs at the end of April to 1,680 cfs on June 4, the maximum diversion rate for the year. Between June 5 and July 23, the diversions remained relatively constant between 1,620 cfs and 1,660 cfs. The diversion rate was then reduced to about 1,550 cfs by the middle of August, remaining at about that rate through September 10. With wetter conditions moving into the region, the Government Highline Canal diversions progressively declined to about 1,150 cfs by

October 10, where they remained until October 26. The diversion rate was decreased to 950 cfs on October 30 and remained at that level through November 9, and then terminated for the year on November 10.

The Palisade Pipeline between the Government Highline Canal and the Colorado River allows the Grand Valley Water Users Association to better regulate the flows in the Government Highline Canal. The pipeline returns water diverted for canal regulation back to the river above the GVIC diversion and the 15-Mile Reach (see Figure 2). To the degree it is not diverted by GVIC, the water returned benefits the endangered fish. The Palisade Pipeline was operated throughout much of the irrigation season this year. The daily flow rates of water through the pipeline between July 20 and October 31 are provided in Table 2. The pipeline was operated for all but 10 days during the period August 3 and October 9. During this period, the pipeline operated at rates varying between 25 cfs and 86 cfs. Between August 3 and October 9, operation of the pipeline resulted in 6,623 acre-feet being available above GVIC to be diverted by GVIC or bypassed to the 15-Mile Reach for the benefit of the endangered fish.

15-Mile Reach Flows

Target flows for the 15-Mile Reach are nominally established by type of year for each month. Due to varying conditions throughout the irrigation season, in recent dry years they have been adjusted to provide for the endangered fish while still accommodating diversions. While the 15-Mile Reach target flow was initially set in late June, the native flow in the 15-Mile Reach remained above the target through the middle of July, making augmentation releases unnecessary until the latter part of July.

Table 2 provides a daily accounting of the flows in the 15-Mile Reach during the augmentation period with and without the releases from the participating reservoirs and the management of the irrigation diversions via the Palisade Bypass Pipeline. The average flow in the 15-Mile Reach during the flow augmentation period of July 24 through October 31 was 1,305 cfs. Without the reservoir releases, the average flow in the 15-Mile Reach during this period would have been 992 cfs. The average flow in the reach during the period of time the target flow was 1,240 cfs (July 24 through August 22, August 30 through September 5, and September 13 through October 31) was 1,331 cfs, while without the flow augmentation releases it would have been 1,068 cfs. The target flow was set at 1400 cfs for the period between August 23 and August 29. During this period, the average flow in the 15-Mile Reach was 1,218 cfs. Without the flow augmentation releases from the reservoirs, the average flows in the 15-Mile Reach during this period would have been 673 cfs. Between September 6 and September 12 the target flow was set at 1,040 cfs. During this period, the average flow in the 15-Mile Reach was 1,069 cfs. Without the flow augmentation releases from the reservoirs, the average flows in the 15-Mile Reach during this period would have been 375 cfs. Daily average flows in the 15-Mile Reach dropped below the flow target on 48 days during the 100-day flow augmentation period. Without the reservoir releases, flows in the 15-Mile Reach would have been below the target flows on 68 of the 100 days.

After accounting for transit loss, the four participating reservoirs contributed a total of 55,477 acre-feet to the flows in the 15-Mile Reach. In addition, the use of the Palisade Bypass Pipeline between August 3 and October 10 allowed an additional 6,623 acre-feet to flow through the 15-Mile Reach. Together the reservoir releases and operation of the Pipeline resulted in a total of 62,100 acre-feet that would not have otherwise flowed through the 15-Mile Reach. The source and daily distribution of the 62,100 acre-feet of additional flow in the 15-Mile Reach is presented in Figure 4. Figure 5 depicts the daily flows that actually occurred in the 15-Mile Reach ("With Reservoir Deliveries" column in Table 2), the daily flows that would have occurred in the 15-Mile Reach without the reservoir releases and the Pipeline bypasses ("Without Reservoir Deliveries" column in Table 2), and the USFWS recommended mean monthly flow in the 15-Mile Reach.

References

Provisional streamflow data for the 15-Mile Reach (Table 2) was obtained from the United States Geological Survey (USGS) web site http://nwis-colo.cr.usgs.gov for USGS gage No. 9106150, Colorado River below Grand Valley Diversion near Palisade, CO. Decisions on volume and timing of reservoir releases were made based upon the provisional flow data reported by the USGS, and other factors. The provisional data is subject to review and change by the USGS, and generally is not identical to the flow data that is later published for each water year.

The irrigation diversion data (Figure 3) was obtained from the State of Colorado, Division of Water Resources, Division 5.

Reservoir release data (Tables 2, 3, and 4) was reported by the respective reservoir owners and verified by the State of Colorado, Division of Water Resources, Division 5.

Reservoir decreed capacity data (Table 3) was supplied by the State of Colorado, Division of Water Resources, Division 5.

Dry year upper and lower bands for Green Mountain Reservoir HUP storage volume (Figure 1) are from the Orchard Mesa Check Case, Stipulation and Agreement (State of Colorado, Water Division 5, Case No. 91CW247).

Summary of Colorado River Mainstem Calls (Tables 1) was provided by the State of Colorado, Division of Water Resources, Division 5.

TABLE 1

SUMMARY OF COLORADO RIVER MAIN STEM CALLS 2006 IRRIGATION YEAR

STATUS OF CALL AT THE SHOSHONE POWER PLANT

(As determined using the Colorado River near Dotsero gage)

DATE ON	THRU	NO. DAYS CALL ON/OFF	CALLING STRUCTURE	DECREE AMT.	SWING PRIORITY	SWING PRIORITY ADMIN. NO.	COMMENTS
11.01.05	11.06.05	6	Shoshone Power Plant	1250 cfs	C-BT/GMR	31258.00000	
11.07.05	11.14.05	8	"	1250 cfs	None	20427.18999	
11.15.05	11.17.05	3	Free River				One turbine available
11.18.05	01.03.06	47	Shoshone Power Plant	1250 cfs	None	20427.18999	Two turbines available
01.04.06	05.01.06	118	Free River				One turbine available
05.02.06	07.23.06	83	Free River				Two turbines available
07.24.06	07.25.06	2	Shoshone Power Plant	158 cfs	Dillon/Roberts	35238.00000	
07.26.06	07.27.06	2	Shoshone Power Plant	158 cfs	Con-Hoosier	35927.00000	
07.28.06	08.04.06	8	Shoshone Power Plant	158 cfs	Dillon/Roberts	35238.00000	
08.05.06	08.09.06	5	Shoshone Power Plant	158 cfs	None	33023.28989	
08.10.06	08.14.06	5	Shoshone Power Plant	1250 cfs	C-BT/GMR	31258.00000	
08.15.06	9.21.06	38	Shoshone Power Plant	1250 cfs	None	20427.18999	
9.22.06	10.11.06	20	Shoshone Power Plant	1250 cfs	C-BT/GMR	31258.00000	
10.12.06	10.31.06	20	Shoshone Power Plant	1250 cfs	None	20427.18999	

STATUS OF CALL IN THE GRAND VALLEY

(As determined using the Colorado River near Cameo gage)

DATE ON	THRU	NO. DAYS CALL ON/OFF			SWING PRIORITY	SWING PRIORITY ADMIN. NO.	COMMENTS	

Table 2 - Reservoir Releases and 15 Mile Reach Flows

1 7	RESERVOIR	RELEASES T	O 15 MILE RE	ACH (CFS)				15 MILE REAC		Palisade	15-Mile Read	ch Flow (cfs)
	Green Mtn	Ruedi	Wolford	Williams Fk	Green Mtn	Ruedi	Wolford	Williams Fk		Bypass	WITH	WITHOUT
	HUP Surplus	Fish Pools	Fish Pools	Reservoir	HUP Surplus	Reservoir	Reservoir	Reservoir	TOTAL	Pipeline**	Reservoir	Reservoir
Date	66,000 AF	20,825 AF	11,412 AF	5,412 AF	3-day, 10%	2-day, 7.5%	3-day, 10%	3-day, 10%	(cfs)	(cfs)	Deliveries	Deliveries
07/20/06	0	0	0	0	0	0	0	0	0	0	1595	1595
07/21/06	0	0	0	0	0	0	0	0	0	0		1365
07/22/06	0	0	0	0	0	0	0	0	0	0		1355
07/23/06	0	0	0	0	0	0	0	0	0	0	1243	1243
07/24/06	0	41	50	0	0	0	0	0	0	0		1110
07/25/06	0	116	100	0	0	0	0	0	38	0	955	955 944
07/26/06 07/27/06	0	115 115	100	0	0	38 107	0 45	0	152	0		968
07/28/06	0	143	100	0	0	107	90	0	197	0	1110	913
07/29/06	0	180	100	0	0	107	90	0	197	0	992	795
07/30/06	0	182	100	0	0	133	90	0	223	0		687
07/31/06	0	181	100	0	0	167	90	0	257	0	931	674
08/01/06	0	180	100	0	0	168	90	0	258	0	1438	1180
08/02/06	0	150	33	0	0	167	90	0	257	0	1673	1416
08/03/06	0	128	0	0	0	166	90	0	256	25	1459	1178
08/04/06	0	139	0	0	0	139	90	0	229	47	1215	939
08/05/06	0	139	0	0	0	118	30	0	148	47	1050	855
08/06/06	0	138	0	0	0	129	0	0	129	47	1194	1018
08/07/06	0	138	50	0	0	129 128	0	0	129 128	46	1141 1098	966 923
08/08/06 08/09/06	0	156 184	100	89	0	128	0	0	128	47 67	1098	923 859
08/10/06	0	183	100	101	0	144	0	0	144	67	932	721
08/11/06	0	183	100	101	0	170	45	0	215	67	992	710
08/12/06	0	183	100	101	0	170	90	80	339	67	999	593
08/13/06	0	183	100	101	0	169	90	91	350	67	1107	690
08/14/06	0	182	100	101	0	169	90	91	350	67	1198	781
08/15/06	0	180	100	101	0	169	90	91	350	0	1095	745
08/16/06	0	181	100	145	0	168	90	91	349	28	1041	664
08/17/06	0	170	100	151	0	167	90	91	348	73	1116	695
08/18/06	30	130	100	151	0	167	90	91	348	73	1092	671
08/19/06	60	130	100	151	0	157	90	131	378	86	1103	639
08/20/06	33	131	100	151	0	121	90	136	347	86	1165	732
08/21/06 08/22/06	143 138	131 130	100 100	151 151	27 54	120 121	90 90	136 136	373 401	48 48	1177 1146	756 697
08/23/06	96	124	100	151	30	121	90	136	377	48		699
08/24/06	267	124	100	151	129	121	90	136	475	0		553
08/25/06	375	124	100	151	124	115	90	136	465	0		546
08/26/06	293	123	100	151	86	115	90	136	427	39	1104	638
08/27/06	245	123	100	151	240	115	90	136	581	39	1338	718
08/28/06	309	123	100	151	338	114	90	136	678	39		813
08/29/06	303	123	100	75	264	114	90	136	604	39		747
08/30/06	334	124	100	0	221	114	90	136	561	0	1280	719
08/31/06	352	123	100	0	278	114	90	136	618	0		552
09/01/06 09/02/06	428 434	124 123	100	0	273 301	114 114	90 90	67 0	544 505	0		506 495
09/02/06	434	123	100	0	301	114	90	0	505	36		360
09/04/06	552	122	100	0	385	114	90	0	589	0	969	380
09/05/06	549	122	100	0	391	113	90	0	594	36		221
09/06/06	590	122	100	0	424	113	90	0	627	0		256
09/07/06	614	122	100	0	497	113	90	0	700	0	890	190
09/08/06	357	121	100	0	494	113	90	0	697	36	959	226
09/09/06	455	121	100	0	531	113	90	0	734	38	1070	298
09/10/06	468	121	100	0	553	112	90	0	755	38		377
09/11/06	539	121	100	0	321	112	90	0	523	38	1260	699
09/12/06	373	121	100	0	410	112	90	0	611	59	1250	580
09/13/06	616	121	100	0	421	112	90	0	623	69	1210	518
09/14/06 09/15/06	481 499	121 121	100 100	0	485 336	112	90 90	0	687	69 69	1180 1440	424 833
09/15/06	383	121	100	0	554	112 112	90	0	538 756	69	1540	715
09/17/06	436	120	100	0	432	112	90	0	634	69	1640	937
09/18/06	400	120	100	0	449	112	90	0	651	69	1550	830

Table 2 (continued) - Reservoir Releases and 15 Mile Reach Flows

	RESERVOIR	RELEASES 1	ΓΟ 15 MILE RE	ACH (CFS)				15 MILE REAC ID LOSSES(CI		Palisade	15-Mile Reach Flow (cfs)		
	Green Mtn	Ruedi	Wolford	Williams Fk	Green Mtn	Ruedi	Wolford	Williams Fk	,	Bypass	WITH	WITHOUT	
	HUP Surplus	Fish Pools	Fish Pools	Reservoir	HUP Surplus	Reservoir	Reservoir	Reservoir	TOTAL	Pipeline**	Reservoir	Reservoir	
Date	66,000 AF	20,825 AF	11,412 AF	5,412 AF	3-day, 10%	2-day, 7.5%	3-day, 10%	3-day, 10%	(cfs)	(cfs)	Deliveries	Deliveries	
09/19/06	398	120	100	0	345	111	90	0	546	69	1500	88	
09/20/06	332	121	100	0	392	111	90	0	593	69	1430	768	
09/21/06	144	125	100	0	360	111	90	0	561	69	1480	85	
09/22/06	144	125	33	0	358	112	90	0	560	69	1910	128	
09/23/06	144	120	0	0	299	115	90	0	504	68	1960	138	
09/24/06	0	120	0	0	130	115	90	0	335	69	1760	135	
09/25/06	0	120	0	0	130	111	30	0	271	69	1440	110	
09/26/06	0	114	0	0	130	111	0	0	241	63	1340	103	
09/27/06	0	112	0	0	0	111	0	0	111	69	1270	109	
09/28/06	0	110	0	0	0	105	0	0	105	69	1240	106	
09/29/06	0	111	0	0	0	104	0		104	69	1200	102	
09/30/06	0	111	0	0	0	102	0	0	102	69	1210	103	
10/01/06	0	111	0	0	0	103	0	0	103	70	1220	104	
10/02/06 10/03/06	0	111 112	0	0	0	103 103	0	0	103 103	70 70	1500 1406	132 123	
	0	111	0	0	0	103	0	0	103	70	1604		
10/04/06 10/05/06	0	111	0	0	0	103	0	0	103	70	1844	143 167	
10/05/06	0	99	0	0	0	103	0	0	103	70	1739	156	
10/06/06	0	8	0	0	0	103	0	0	103	68	1565	139	
10/07/06	0	9	0	0	0	92	0	0	92	0	1482	139	
10/08/06	0	9	0	0	0	8	0	0	92 8	28	1905	186	
10/09/06	0	9	0	0	0	8	0	0	8	0	1708	170	
10/10/06	0	0	0	0	0	8	0	0	8	0	1770	176	
10/11/06	0	0	0	0	0	9	0	0	9	0	1620	161	
10/12/06	0	0	0	0	0	0	0	0	0	0	1571	157	
10/14/06	0	0	0	0	0	0	0	0	0	0	1494	149	
10/15/06	0	0	0	0	0	0	0	0	0	0	1408	140	
10/16/06	0	0	0	0	0	0	0	0	0	0	1334	133	
10/17/06	0	0	0	0	0	0	0	0	0	0	1276	127	
10/18/06	0	0	0	0	0	0	0	0	0	0	1184	118	
10/19/06	0	0	0	0	0	0	0	0	0	0	1273	127	
10/20/06	0	0	0	0	0	0	0	0	0	0	1523	152	
10/21/06	0	0	0	0	0	0	0	0	0	0	1576	157	
10/22/06	0	0	0	0	0	0	0	0	0	0	1541	154	
10/23/06	0	0	0	0	0	0	0	0	0	0	1389	138	
10/24/06	0	0	0	0	0	0	0	0	0	0	1332	133	
10/25/06	0	0	0	0	0	0	0	0	0	0	1284	128	
10/26/06	0	0	0	0	0	0	0	0	0	0	1337	133	
10/27/06	0	0	0	0	0	0	0	0	0	0	1357	135	
10/28/06	0	0	0	0	0	0	0	0	0	0	1402	140	
10/29/06	0	0	0	0	0	0	0	0	0	0	1531	153	
10/30/06	0	0	0	0	0	0	0	0	0	0	2137	213	
10/31/06	0	0	0	0	0	0	0	0	0	0	2030	203	
otal (ac-ft):	25,358	19,680	10,644	5,412	22,822	18,204	9,580	4,871	55,477	6,623			
	g flow augment										1,305	99	
	7/24 to 8/22, 8/			get flow=1240	cfs (cfs):						1,331	1,06	
erage from	8/23 to 8/29, ta	•	` '								1,218	67	
verage from											1,069	37	

^{**}The Palisade Bypass Pipeline is not a reservoir release. However, the pipeline flows are considered to be reservoir deliveries for the purpose of computing the "without reservoir deliveries" flow in the 15-Mile Reach. It is assumed that the entire flow of the Bypass is contributing to the flow in the 15-Mile Reach as long as the flow passing the GVIC Diversion Dam is equal to or exceeds the Bypass flow.

Table 3
Late Summer and Fall Reservoir Operation Statistics for 2006

Reservoir Decreed Capacity (acre-feet)	Pools/Releases Managed by HUP Managing Entities & Water Managers	Volumes (acre-feet)	Releases to Benefit 15 MR (acre-feet)
Green Mountain Reservoir			
154,645	H'-4	<i>cc</i> 000	
	Historic User's Pool (HUP) ¹	66,000	
	Release to HUP Beneficiaries Release for Cameo Call	4,373 0	
	Surplus Released	U	25,358
	Remaining HUP Allocation on Nov. 1	36,269	25,556
	Remaining ITO1 Anocation on Nov. 1	30,209	
Ruedi Reservoir			
102,369			
102,507	Endangered Fish Firm Commitment	5,000	
	Endangered Fish 4-out-of-5 Yr Commitmen		
	Mitigation Water	10,825	
	Total Dedicated for Endangered Fish	20,825	
	Released for Endangered Fish	,	19,680
	Remaining Fish Allocation on Nov. 1	1,145	,
Wolford Mountain Reservoir			
65,993			
	Endangered Fish Pool	6,000	
	West Slope Mitigation Water	5,412	
	Released for Endangered Fish		10,644
	Remaining Fish Pool Storage on Nov. 1	768	
Williams Fork Reservoir			
93,637			
	East Slope Mitigation Water	5,412	
	Released for Endangered Fish		5,412
	Remaining Fish Pool Storage on Nov. 1	0	
	Total Releases that Directly or Indirectly		
	Benefited the 15-Mile Reach Flows		61,094

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 $^{^{1}}$ HUP is the term commonly applied to the releases from the Green Mountain Reservoir Power Pool pursuant to paragraph 2 of the 1984 Green Mountain Reservoir Operating Policy.

Table 4 - Historic Users Pool Releases and Storage Content

		Ups	HUP Augm tream HUP Ben	entation Rele eficiaries due		ts*		Addl. HUP Aug. Rel. to		HUP Surplus		Remaining HUP
Dete	GMR	Shosh.158			GVWUA 730	GVPP 400	Total	support 1950	Rel. to GVPP	M/R Contract	Total Release	Allocation
Date 04/20/06	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(acre-feet) 6,908
04/21/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	7,829
04/22/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	8,865
04/23/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	10,212
04/24/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	11,710
04/25/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	13,091
04/26/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	14,361
04/27/06 04/28/06	1.9 1.9	0.0	0.0	0.0	0.0	0.0	1.9 1.9	0.0	0.0	0.0	0.0	15,738 17,311
04/29/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	18,564
04/30/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	20,132
05/01/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	21,410
05/02/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	22,740
05/03/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	24,234
05/04/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	25,873
05/05/06 05/06/06	1.9 1.9	0.0	0.0	0.0	0.0	0.0	1.9 1.9	0.0	0.0	0.0	0.0	27,453 29,002
05/07/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	30,545
05/08/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	32,193
05/09/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	33,789
05/10/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	35,239
05/11/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	36,454
05/12/06 05/13/06	1.9 1.9	0.0	0.0	0.0	0.0	0.0	1.9 1.9	0.0 0.0	0.0	0.0	0.0 0.0	37,852 39,630
05/13/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	41,767
05/15/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	44,040
05/16/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	46,931
05/17/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	50,174
05/18/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	53,699
05/19/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	57,399
05/20/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	61,479
05/21/06 05/22/06	1.9 1.9	0.0	0.0	0.0	0.0	0.0	1.9 1.9	0.0	0.0	0.0	0.0 0.0	65,884 65,880
05/23/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	65,876
05/24/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	65,873
05/25/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	65,869
05/26/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	65,865
05/27/06	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	65,861
05/28/06 05/29/06	1.9 0.2	0.0	0.0	0.0	0.0	0.0	1.9 0.2	0.0 0.0	0.0	0.0	0.0 0.0	65,858 65,857
05/30/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,857
05/31/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,857
06/01/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,856
06/02/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,856
06/03/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,856
06/04/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,855 65,855
06/05/06 06/06/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2 0.2	0.0 0.0	0.0	0.0	0.0 0.0	65,855 65,855
06/07/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,854
06/08/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,854
06/09/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,854
06/10/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	65,854
06/11/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2 0.2			0.0	0.0	65,853
06/12/06 06/13/06	0.2 0.2	0.0	0.0	0.0	0.0	0.0	0.2		0.0	0.0	0.0	65,853 65,853
06/14/06	0.2	0.0	0.0	0.0	0.0	0.0	0.2		0.0	0.0	0.0	65,852
06/15/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	65,852
06/16/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/17/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/18/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
06/19/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/20/06 06/21/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0	0.0 0.0	65,852 65,852
06/22/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
06/23/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/24/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/25/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/26/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/27/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	65,852
06/28/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852

Table 4 (continued) - Historic Users Pool Releases and Storage Content

		Ups	HUP Augm tream HUP Ben	entation Rele		ts*		Addl. HUP Aug. Rel. to				Remaining HUP
ľ	GMR	Shosh.158	Shosh. 1250	GVIC 119	GVWUA 730	GVPP 400	Total	support 1950	Rel. to GVPP	M/R Contract	Total Release	Allocation
Date	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(acre-feet)
06/29/06 06/30/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852 65,852
07/01/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/02/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/03/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/04/06 07/05/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0 0.0	0.0	0.0	0.0 0.0	65,852
07/05/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852 65,852
07/07/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/08/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/09/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/10/06 07/11/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0 0.0	0.0	0.0	0.0 0.0	65,852 65,852
07/11/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/13/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/14/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/15/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/16/06 07/17/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0 0.0	65,852 65,852
07/18/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/19/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/20/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/21/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65,852
07/22/06 07/23/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0 0.0	0.0	0.0	0.0 0.0	65,852 65,852
07/24/06	0.0	8.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	65,836
07/25/06	0.0	14.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	65,809
07/26/06	0.0	12.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	65,785
07/27/06	0.0	11.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	65,763
07/28/06 07/29/06	0.0	11.0 11.0	0.0	0.0	0.0	0.0	11.0 11.0	0.0	0.0	0.0	0.0 0.0	65,741 65,719
07/30/06	0.0	10.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	65,700
07/31/06	0.0	9.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	65,682
08/01/06	0.0	8.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	65,666
08/02/06	0.0	8.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	65,650
08/03/06 08/04/06	0.0	7.0 7.0	0.0	0.0	0.0	0.0	7.0 7.0	0.0 0.0	0.0	0.0	0.0 0.0	65,636 65,622
08/05/06	0.0	10.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	65,602
08/06/06	0.0	9.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	65,585
08/07/06	0.0	9.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	65,567
08/08/06	0.0	9.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	65,549
08/09/06 08/10/06	0.0	9.0	0.0 29.0	0.0	0.0	0.0	9.0 29.0	0.0 0.0	0.0	0.0	0.0 0.0	65,531 65,474
08/11/06	0.0	0.0	28.0	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	65,418
08/12/06	0.0	0.0	27.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	65,364
08/13/06	0.0	0.0	27.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	65,311
08/14/06 08/15/06	0.0	0.0	26.0 44.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	0.0 0.0	65,259
08/16/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0 44.0	0.0 0.0	0.0	0.0	0.0	65,172 65,085
08/17/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0	0.0	0.0	0.0	0.0	64,997
08/18/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0	0.0	0.0	30.0	30.0	64,851
08/19/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0	0.0	0.0	60.0	60.0	64,644
08/20/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0	0.0	0.0	33.0	33.0	64,492
08/21/06 08/22/06	0.0	0.0	44.0 44.0	0.0	0.0	0.0	44.0 44.0	0.0 0.0	0.0	143.0 138.0	143.0 138.0	64,121 63,760
08/23/06	0.0	0.0	44.0	0.0	0.0	0.0	44.0	0.0	0.0	96.0	96.0	63,482
08/24/06	0.0	0.0	42.0	0.0	0.0	0.0	42.0	0.0	0.0	267.0	267.0	62,869
08/25/06	0.0	0.0	42.0	0.0	0.0	0.0	42.0	0.0	0.0	375.0	375.0	62,042
08/26/06	0.0	0.0	42.0	0.0	0.0	0.0	42.0	0.0	0.0	293.0	293.0	61,378
08/27/06 08/28/06	0.0	0.0	40.0 40.0	0.0	0.0	0.0	40.0 40.0	0.0 0.0	0.0 21.6	245.0 287.4	245.0 309.0	60,812 60,120
08/29/06	0.0	0.0	39.0	0.0	0.0	0.0	39.0	0.0	36.2	266.8	303.0	59,442
08/30/06	0.0	0.0	38.0	0.0	0.0	0.0	38.0	0.0	93.6	240.4	334.0	58,704
08/31/06	0.0	0.0	37.0	0.0	0.0	0.0	37.0	0.0	121.5	230.5	352.0	57,932
09/01/06	0.0	0.0	36.0	0.0	0.0	0.0	36.0	0.0	241.7	186.3	428.0	57,012
09/02/06 09/03/06	0.0	0.0	36.0 35.0	0.0	0.0	0.0	36.0 35.0	0.0 0.0	256.2 282.3	177.8 188.7	434.0 471.0	56,080 55,076
09/03/06	0.0	0.0	35.0	0.0	0.0	0.0	35.0	0.0	396.0	156.0	552.0	53,912
09/05/06	0.0	0.0	34.0	0.0	0.0	0.0	34.0	0.0	302.9	246.1	549.0	52,755
09/06/06	0.0	0.0	34.0	0.0	0.0	0.0	34.0	0.0	238.5	351.5	590.0	51,518
09/07/06	0.0	0.0	33.0	0.0	0.0	0.0	33.0	0.0	156.7	457.3	614.0	50,234

Table 4 (continued) - Historic Users Pool Releases and Storage Content

		Upstr		entation Rele	ases for to Calling Righ	ts*		Addl. HUP Aug. Rel. to		HUP Surplus		Remaining HUP
-	GMR	Shosh.158	Shosh. 1250	GVIC 119	GVWUA 730	GVPP 400	Total	support 1950	Rel. to GVPP		Total Release	Allocation
Date	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(acre-feet)
09/08/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	357.0	357.0	49,463
09/09/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	455.0	455.0	48,497
09/10/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	468.0	468.0	47,505
09/11/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	35.2	503.8	539.0	46,372
09/12/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	373.0	373.0	45,569
09/13/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	616.0	616.0	44,284
09/14/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	480.5	480.5	43,267
09/15/06	0.0	0.0	32.0	0.0	0.0	0.0	32.0	0.0	0.0	499.0	499.0	42,214
09/16/06	0.0	0.0	31.0	0.0	0.0	0.0	31.0	0.0	0.0	383.0	383.0	41,393
09/17/06	0.0	0.0	31.0	0.0	0.0	0.0	31.0	0.0	0.0	436.0	436.0	40,467
09/18/06	0.0	0.0	31.0	0.0	0.0	0.0	31.0	0.0	0.0	400.0	400.0	39,612
09/19/06	0.0	0.0	31.0	0.0	0.0	0.0	31.0	0.0	0.0	398.0	398.0	38,761
09/20/06	0.0	0.0	30.0	0.0	0.0	0.0	30.0	0.0	0.0	332.0	332.0	38,043
09/21/06	0.0	0.0	30.0	0.0	0.0	0.0	30.0	0.0	0.0	144.0	144.0	37,698
09/22/06	0.0	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0	144.0	144.0	37,376
09/23/06	0.0	0.0	17.0	0.0	0.0	0.0	17.0	0.0	0.0	144.0	144.0	37,057
09/24/06	0.0	0.0	17.0 16.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	37,023
09/25/06 09/26/06	0.0	0.0	16.0	0.0	0.0	0.0	16.0 16.0	0.0	0.0	0.0	0.0	36,991 36,960
	0.0	0.0	15.0	0.0	0.0	0.0	15.0	0.0		0.0	0.0	
09/27/06 09/28/06	0.0	0.0	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	36,930 36,902
09/28/06	0.0	0.0	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	36,902
09/30/06	0.0	0.0	13.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	36,849
10/01/06	0.0	0.0	13.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	36,823
10/01/00	0.0	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	36,799
10/02/00	0.0	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	36,775
10/03/00	0.0	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	36,751
10/05/06	0.0	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	36,728
10/06/06	0.0	0.0	11.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	36,706
10/07/06	0.0	0.0	11.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	36,684
10/08/06	0.0	0.0	11.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	36,662
10/09/06	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	36,642
10/10/06	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	36,623
10/11/06	0.0	0.0	9.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	36,605
10/12/06	0.0	0.0	15.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	36,575
10/13/06	0.0	0.0	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	36,547
10/14/06	0.0	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	36,523
10/15/06	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	36,503
10/16/06	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	36,484
10/17/06	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	36,464
10/18/06	0.0	0.0	9.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	36,446
10/19/06	0.0	0.0	9.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	36,428
10/20/06	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	36,412
10/21/06	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	36,396
10/22/06	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	36,381
10/23/06	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	36,365
10/24/06	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	36,349
10/25/06	0.0	0.0	7.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	36,335
10/26/06	0.0	0.0	7.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	36,321
10/27/06	0.0	0.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	36,309
10/28/06	0.0	0.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	36,297
10/29/06	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	36,287
10/30/06	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	36,277
10/31/06	0.0	0.0	4.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	36,269
Total (ac-ft):	147.6	321.3	3903.5	0.0	0.0	0.0	4372.4	0.0	4329.0	21028.7	25357.7	

^{*}There are other water rights within the Grand Valley that may be the "Calling Right" (e.g. MCID and PID). However, unless extrememly dry conditions prevail, the "Calling Right" in the Grand Valley will most likely be either the GVIC 119 cfs water right or the GVWUA 730 cfs water right.

FIGURE 1
2006 GREEN MOUNTAIN RESERVOIR HUP OPERATION

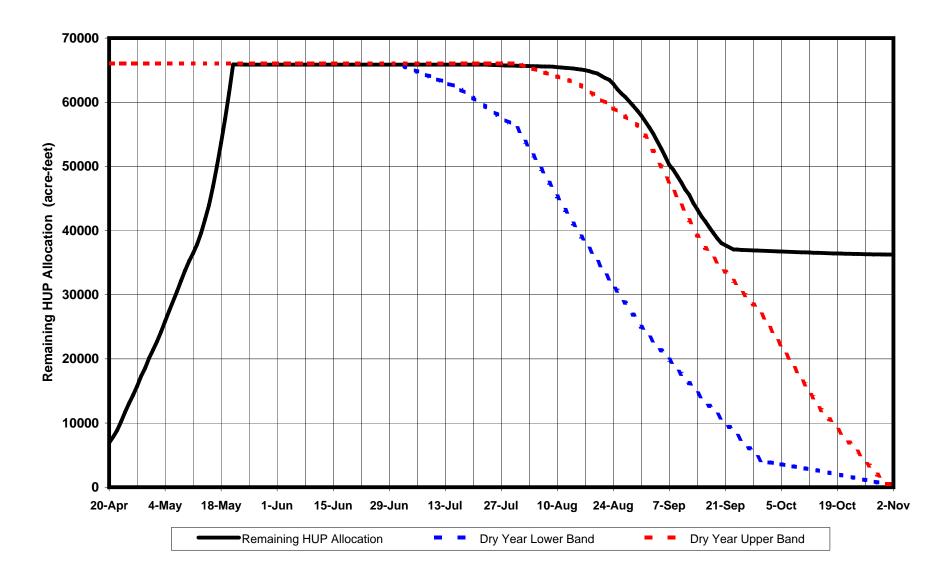


Figure 2 – Schematic of Irrigation & Power Diversions in the Grand Valley

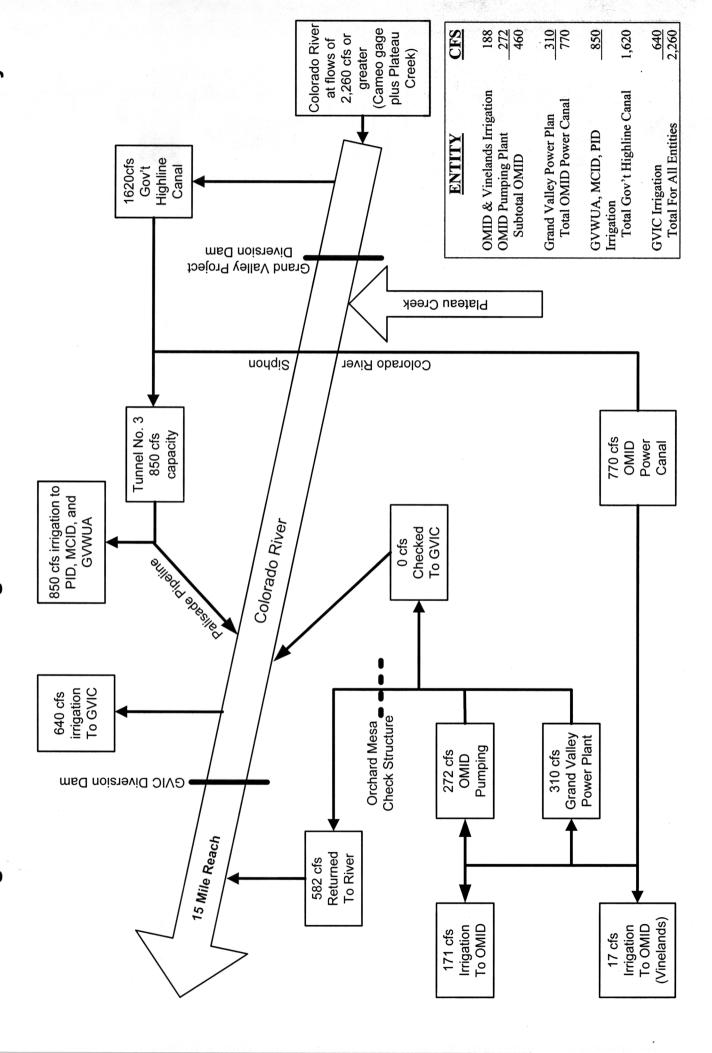


FIGURE 3
2006 GRAND VALLEY IRRIGATION & POWER DIVERSIONS

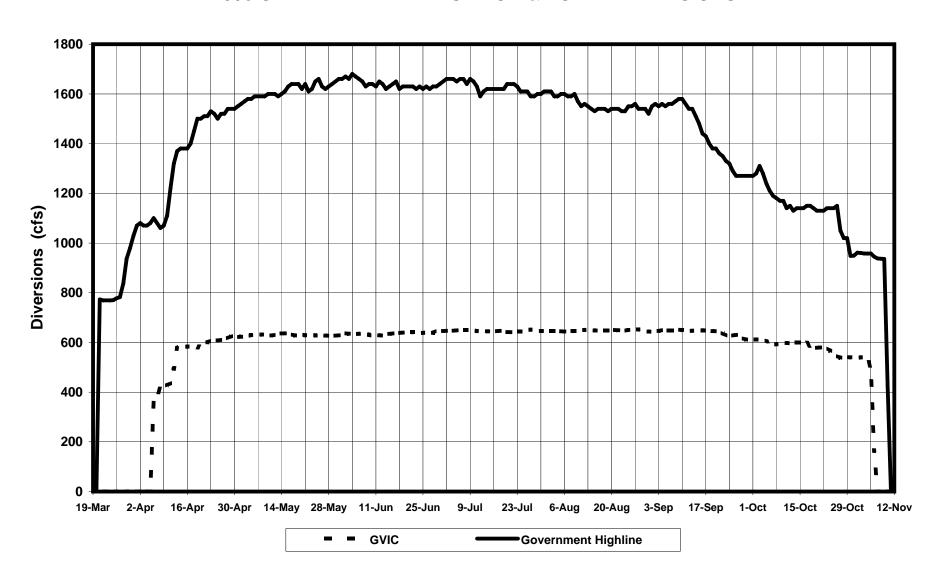


FIGURE 4
Sources of Augmentation Flow in the 15-Mile Reach
Water Year 2006

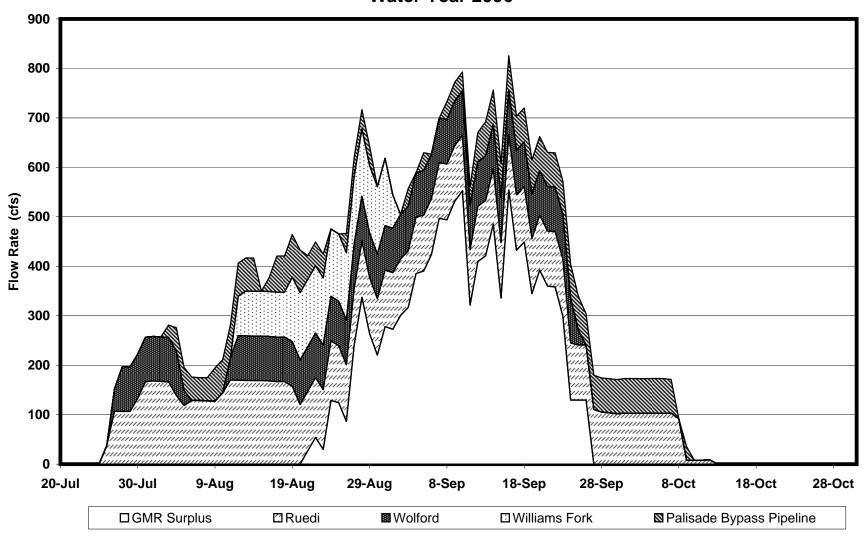
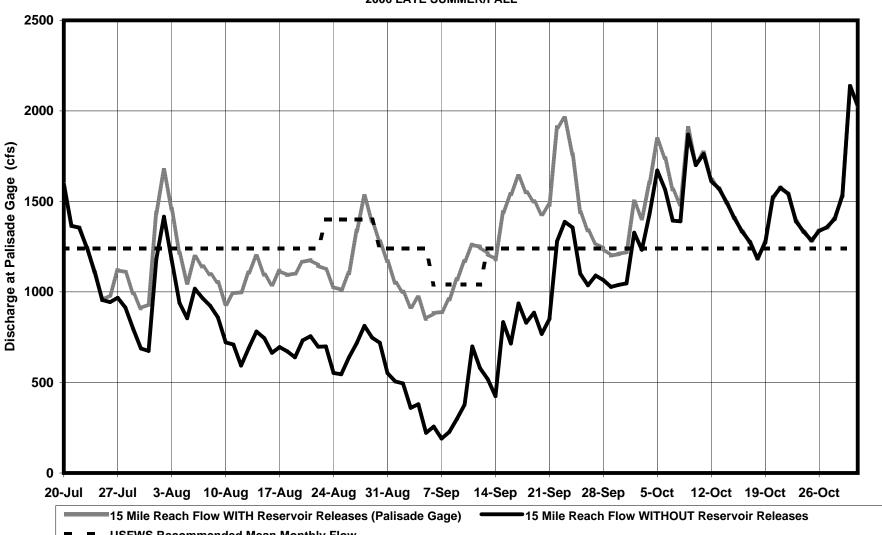


FIGURE 5 EFFECT OF LATE IRRIGATION SEASON RESERVOIR RELEASES ON FLOW IN THE 15-MILE REACH (As Measured at the Colorado River at Palisade Gage) 2006 LATE SUMMER/FALL



USFWS Recommended Mean Monthly Flow

Attachment A

Background Information

In 1988, the U.S. Fish and Wildlife Service (Service), the states of Colorado, Wyoming and Utah, the Bureau of Reclamation (Reclamation) and Western Area Power Administration established a Recovery Program aimed at recovering four endangered native Colorado River fish species. Under the Program the Service designated a 15-Mile Reach of the Colorado River extending from Palisade, Colorado to the confluence with the Gunnison River (15-Mile Reach) as critical habitat for two of the endangered species. The Service also identified the 15-Mile Reach as one of the highest priority areas for flow protection, and established recommendations for mean monthly flows for the head of the 15-Mile Reach in 1989¹ and 1995².

The Service identified the need to augment flow in the 15-Mile Reach for both the spring runoff period and the late summer/fall seasons. An effort known as the Coordinated Reservoirs Operations was established to augment spring peak flows. The actions detailed in this report are aimed at augmenting flows in the Reach during the late summer and fall.

In September 1996, a Stipulation and Agreement (Settlement) was executed to resolve water rights Case No. 91CW247, also referred to as the Orchard Mesa Check Case. The case concerned a water rights application for an exchange of water in the Grand Valley involving use of the Orchard Mesa Check structure. The Settlement included operating criteria for the 66,000 acre-foot Historic Users Pool (HUP) of Green Mountain Reservoir. The criteria define the terms and conditions under which water in the HUP may be surplus to the needs of HUP beneficiaries in western Colorado.

In addition, the Settlement provided for delivering surplus HUP water to the Grand Valley Power Plant and to other beneficial uses in western Colorado, the return flows from which will result in augmenting flows in the 15-Mile Reach of the Colorado River.

The Settlement, also established a group of entities with whom Reclamation consults in managing releases of surplus water from the HUP. The group of entities and Reclamation are collectively known as the "HUP Managing Entities" and includes representatives from the following organizations:

^{1.} Biologically Defensible Flow Recommendations for the Maintenance and Enhancement of Colorado Squawfish Habitat in the 15-Mile Reach of the Upper Colorado River During July, August, and September'', Final Report, U.S. Fish and Wildlife Service, Colorado River Fishery Project, May 1989.

^{2.} Relationships Between Flow and Rare Fish Habitat in the 15 Mile Reach of the Upper Colorado River, Final Report, Fish and Wildlife Service, May, 1995.

U.S. Bureau of Reclamation (USBR)
Grand Valley Water Users Association (GVWUA)
Orchard Mesa Irrigation District (OMID)
Grand Valley Irrigation Company (GVIC)
Colorado Division of Water Resources, Division 5
Colorado Water Conservation Board (CWCB)
U.S. Fish and Wildlife Service (USFWS)

In addition to the surplus HUP water from Green Mountain Reservoir, the following additional sources of water have been made available to assist in augmenting 15-Mile Reach flows for the endangered fish:

In 1990 Reclamation signed a Record of Decision (ROD) for the Ruedi Reservoir Round II Water Marketing program Environmental Impact Statement. As mitigation for Round II water sales, Reclamation committed 5,000 acre-feet of water annually and 5,000 acre-feet four out of five years to be available to assist recovery of the endangered fish. Reclamation also made available an additional 10,825 acre-feet of unmarketed water from Ruedi through 2012 pursuant to an agreement with the Service and CWCB. The releases from the Ruedi water available to the endangered fish are made by Reclamation in consultation with the Service and the CWCB, normally during the late irrigation season from July through October.

In 1998 the Colorado River Water Conservation District (CRWCD) obtained a Biological Opinion for the operation of Wolford Mountain Reservoir. In the Wolford Biological Opinion the CRWCD committed 6,000 acre-feet of space annually to be used to capture and release water to assist in recovery of the endangered Colorado River fish. The releases from Wolford Mountain are made by the CRWCD in coordination with requests from the Service.

In managing releases of surplus water from the HUP to attempt to meet the target flows for the 15-Mile Reach, the Managing Entities recognized that a greater benefit was to be gained by coordinating these releases with releases for endangered fish from Ruedi and Wolford Mountain reservoirs. The Settlement provides for an initial meeting and consultation to assess the condition of the HUP surplus and determine surplus releases. The consultation has been conducted through conference calls typically held weekly. The CRWCD and Denver Water were invited to join these conference calls so that releases for endangered fish from Wolford and Dillon reservoirs might be managed in coordination with those from the Green Mountain HUP. Other entities with major diversions or interests in administration of the river have also been invited to participate. Since Reclamation, the Service and CWCB were already involved as HUP Managing Entities, releases from Ruedi for the fish have also been coordinated. This report details the collective efforts of the participating entities to augment the flows in the 15-Mile Reach for the benefit of the endangered fishes.

ATTACHMENT B

Interim Policy

Administration of Green Mountain Reservoir for 2006

May 15, 2006

Administration of Green Mountain Reservoir for 2006

Interim Policy

The fill season for the Green Mountain Reservoir first fill storage right (priority date August 1, 1935) is initiated by declaration by the Secretary of the Interior between April 1 and May 15 (para.3, 1964 Blue River Decree). The purpose of this Policy is to address three potential accounting scenarios to administer the first fill of Green Mountain Reservoir with respect to administration of the call on the mainstem of the Colorado River. The fill season for the senior Green Mountain Reservoir storage right ends upon completion of fill (first fill right deemed satisfied), either by a physical fill or a paper fill as defined below, or when the first fill storage water right is curtailed to satisfy a legal river call by a downstream senior water right prior to completion of a physical or paper fill.

Physical Fill

The 1935 Green Mountain Reservoir first fill right is deemed satisfied when the total amount of water retained is equal to the total physical storage capacity in Green Mountain Reservoir.

Paper Fill

The Green Mountain Reservoir 1935 first fill storage right is deemed satisfied with respect to Colorado River administration when the sum of storage at the initiation of the fill season at Green Mountain + physical storage in Green Mountain Reservoir since the initiation of the start of fill + all outflow in excess of 60cfs or the demand of a downstream call from a water right senior to August 1, 1935 + out-of-priority depletions of West Slope beneficiaries of Senate Document No. 80, including contractors, that are upstream of Green Mountain Reservoir and junior to the May 13, 1948 priority of the Continental Hoosier System + upstream Denver and Colorado Springs owed to Green Mountain Reservoir accounts equals 154,645 acre feet ("paper fill").

Following the paper fill and using an October 5, 1955 priority date, Green Mountain shall continue to store tributary inflow when in priority until it physically fills. The amount of water stored in Green Mountain Reservoir pursuant to the October 5, 1955 priority date shall reduce amounts Denver and Colorado Springs owe to Green Mountain Reservoir for upstream out-of-priority diversions under the terms of the Blue River Decree.

No Paper Fill

If a paper fill of Green Mountain Reservoir has not occurred prior to a Colorado River mainstem call senior to the Green Mountain Reservoir 1935 storage right, the upstream out-of-priority depletions of West Slope beneficiaries of Senate Document No. 80, including contractors, and other rights junior to the 1935 Green Mountain first fill right will be counted against the fill of the 1935 Green Mountain Storage right. The out of priority depletions will be computed for the period from the start of the fill declaration by the Secretary of Interior until receipt of the senior water right call.

Limited Applicability of this Policy

The State Engineer adopted this policy in order to give water users certainty about administrative and accounting principles concerning Green Mountain Reservoir during the 2006 fill season. The State Engineer does not intend that this interim policy create any precedent binding on the Division of Water Resources, the U.S. Bureau of Reclamation, or any other water user in a future year (whether or not the factual situation in the future is the same or similar to the 2006 fill season). The State Engineer has consulted with numerous water users prior to adopting this policy and understands that there is not basin-wide consensus about the administrative and accounting principles included in the interim policy. The State Engineer does not intend that this policy change, limit, or in any way affect the future positions of the Division of Water Resources, U.S. Bureau of Reclamation, or any other water user. The State Engineer will not construe acquiescence to the 2006 interim policy to be an admission, estoppel, or waiver nor will he argue that the failure to challenge this interim policy is a failure to exhaust administrative remedies. The parties interested in Green Mountain Reservoir administration and accounting will continue to meet with Division of Water Resources staff and discuss a permanent resolution to these issues in order to suggest a final policy to the State Engineer.

ATTACHMENT C

Meeting Notes of the HUP Managing Entities